IN THE CLAIMS

1. (currently amended) A method of depositing a top clad layer for an optical waveguide of a planar lightwave circuit, the method comprising the steps of:

a) providing a flow rate for a Ge dopant gas for a SiO2 top clad layer deposition;

b) providing a flow rate for a P dopant gas for the top clad layer deposition;

c) providing a flow rate for a B dopant gas for the top cladding layer deposition; and

d) controlling the flow rates for the Ge dopant gas, P dopant gas, and B dopant gas to form the top clad layer~~, thereby~~ to prevent ~~eliminating~~ the formation of crystallization areas within the top clad layer.

2. The method of claim 1, wherein the controlling of the flow rates for the Ge dopant gas, the P dopant gas, and the B dopant gas is configured to increase refractive index stability of the top clad layer across an anneal temperature range from 900C to 1050C.

3. The method of claim 1, wherein the controlling of the flow rates for the Ge dopant gas, the P dopant gas, and the B dopant gas is configured to reduce a number of deposition and anneal cycles required for depositing the top clad layer.

4. The method of claim 1, wherein the B dopant gas comprises B2H6 or B(OCH3)3 tetramethyl borate (TMB).

5. The method of claim 1, wherein the Ge dopant gas comprises GeH4, Ge2H6 or Ge(C2H5O)4.

6. The method of claim 1, wherein the P dopant gas comprises PH3 or P(CH3O)3 tetramethyl phosphite (TMP).

7. The method of claim 1, wherein steps a) through d) are used to form the top clad layer of an active planar lightwave circuit device.

8. (currently amended) A method of depositing a GeBPSG top clad layer for a planar lightwave circuit device, the method comprising the steps of:

a) providing a flow rate for a Ge dopant gas for a SiO2 top clad layer deposition;

b) providing a flow rate for a P dopant gas for the top clad layer deposition;

c) providing a flow rate for a B dopant gas for the top cladding layer deposition; and

d) controlling the flow rates for the Ge dopant gas, P dopant gas, and B dopant gas to form the top clad layer~~, thereby~~ <u>to reduce</u> ~~reducing~~ the formation of crystallization areas within the top clad layer.

9. The method of claim 8, wherein the controlling of the flow rates for the Ge dopant gas, the P dopant gas, and the B dopant gas is configured to increase refractive index stability of the top clad layer across an anneal temperature range from 900C to 1050C.

10. The method of claim 8, wherein the controlling of the flow rates for the Ge dopant gas, the P dopant gas, and the B dopant gas is configured to reduce a number of deposition and anneal cycles required for depositing the top clad layer.

11. The method of claim 8, wherein the B dopant gas comprises B2H6 or B(OCH3)3 tetramethyl borate (TMB).

12. The method of claim 8, wherein the Ge dopant gas comprises GeH4, Ge2H6 or Ge(C2H5O)4.

13. The method of claim 8, wherein the P dopant gas comprises PH3 or P(CH3O)3 tetramethyl phosphite (TMP).

14. The method of claim 8, wherein steps a) through d) are used to form the top clad layer of an arrayed waveguide grating planar lightwave circuit device.

15. (previously withdrawn)

16. (previously withdrawn)

17. (previously withdrawn)